ANNUAL PROGRESS REPORT
WATER LEASING PROGRAM

November 30, 1992

Submitted to:

Montana Water Policy Committee
Montana Board of Natural Resources and Conservation
and
Montana Fish, Wildlife and Parks Commission

Submitted by:

Montana Department of Fish, Wildlife and Parks
Fisheries Division

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I. INTRODUCTION

The water leasing program was established in 1989 by the 51st Montana Legislature. The 52nd Legislature, in 1991, amended the original legislation in the following ways:

1. increasing the term of leases from four to ten years,

2. requiring the Dept. Fish, Wildlife and Parks (DFWP) to submit an annual report by December 1 of each year,

3. adding wording stating that the leasing program does not create a right for a person to bring suit to compel the renewal of an expired lease, and

4. increasing the number of reaches that the Board of Natural Resources and Conservation (BNRC) can designate from five to no more than ten and, in addition, the BNRC can now remove designated reaches at DFWP's request.

DFWP prepared this Annual Report in response to the reporting requirement discussed above and codified as 85-2-436(3)(a) MCA.

II. MAJOR ACCOMPLISHMENTS

Major water leasing accomplishments for 1992 include the following:

1. The signing of two water leases for existing water rights on Mill Creek, an important cutthroat trout spawning tributary of the Yellowstone River.

2. Four additional stream reaches were approved as study streams. They are listed below and are discussed in Section III.

a. Hells Canyon Creek, a tributary of the Jefferson River

b. Tin Cup Creek, a tributary of the Bitterroot River

c. Blanchard Creek, a tributary of the Blackfoot River

d. Cedar Creek, a tributary of the Yellowstone River

With the approval of these four stream reaches, the total number of designated streams now stands at seven. Previously designated streams are: Mill Creek, a Yellowstone River tributary; Big Creek, a Yellowstone River tributary; and Swamp Creek, a Big Hole River tributary.

3. Investigated/pursued 22 water leasing possibilities. Section III discusses these opportunities.

4. Developed a database of water leasing activity since the 1989 inception of the Water Leasing Study program.

III. 1992 EFFORTS

A. ACTIVELY PURSUED

1. Big Creek

Big Creek is a tributary to the upper Yellowstone River entering near Emigrant, Montana. The stream reach studied for leasing extends from the mouth upstream for about one mile. Six irrigation diversions are within this reach and serve nine water users, who irrigate about 1,200 acres.

The water users and the Soil Conservation Service (SCS) are examining the potential for a gravity sprinkler irrigation system to replace the existing earthen ditch system. The increased efficiency of the pipeline system will salvage 11 to 14 cfs of water. This salvaged water could be available for lease to provide instream flows for the spawning of Yellowstone cutthroat trout. The cutthroat hatching success is greatly reduced because the lower one mile of Big Creek is usually dry in August and September.

The DFWP contracted with SCS in June 1991 to:

a. Analyze Big Creek water availability for the pipeline project and for the cutthroat trout fishery;

b. Assist in determining that portion of the project cost to attribute to fishery benefits;

c. Determine the consumed amount of water for each water right currently diverting water for irrigation; and

d. Assist in determining Big Creek's natural water loss.

In addition, the DFWP has estimated the economic benefits of the proposed project to the fishery resource. Information was incorporated into a 1992 Preliminary Feasibility Report by the SCS. The installation cost is estimated to be $878,000 and on-farm costs for sprinklers and pipe is estimated at $541,000 for a total cost of $1,419,500. Average annual cost is estimated to be $144,000.

An SCS report entitled Preliminary Feasibility Report, Big Creek Streamflow Protection Project, Park County, Montana, May 1992 was presented to Big Creek irrigators to help them determine if they wish to proceed with the project. Initially some water users were hesitant about participating in the pipeline project; however, full participation is now possible.

The DFWP is prepared to participate in the project by leasing the salvaged water. Negotiations to determine an agreeable lease price will begin in 1993. DFWP is prepared to make a capital expenditure to help pay the cost of off farm improvements associated with this project.

2. Mill Creek

Mill Creek is a major tributary of the upper Yellowstone River entering approximately 20 miles south of Livingston, Montana. A gravity-fed pipeline system completed in the fall of 1991 replaces earthen ditches used for flood irrigation. The project creates salvaged water that is available for leasing. The stream reach studied for leasing extends from the mouth upstream about 6.4 miles to the diversion point for the new Mill Creek Water and Sewer District pipeline.

August is a critical month for both irrigation and for the hatching of Yellowstone cutthroat trout. During August, Mill Creek water diversions remove an average of 90 percent of the mean August flow, resulting in little or no water at the mouth. The salvaged water can provide added streamflow to the lower six miles of Mill Creek and subsequently benefit trout spawning, hatching, and the out-migration of young fry.

Two water lease contracts were signed in 1992 as follows:

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Individual Water Right Holder - In 1990 DFWP began discussing leasing opportunities with an individual irrigator on Mill Creek. This individual has, as a result of more efficient delivery of water from the new pipeline, 6.13 cfs available for leasing.

A lease agreement was signed with this individual in October 1992. DFWP will annually pay $7,500 to the individual. The DFWP, in accordance with Section 85-2-436(2)(j), MCA, will pay all costs associated with the installation of measuring devices or for personnel to measure streamflow in accordance with the DFWP-provided measurement plan.

In November 1992, DFWP submitted this agreement and a Change of Appropriation application to the Department of Natural Resources and Conservation (DNRC). Approval is expected in late 1992 or early 1993.

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Mill Creek Water and Sewer District - During 1992, a water lease contract was signed with the Mill Creek Water and Sewer District to provide an annual, one-time, 48-60 hour water release each August

to flush cutthroat trout fry to the Yellowstone River. Not later than July 1 of each year, the District will petition the District Court to appoint a water commissioner for Mill Creek. The District shall install, operate, maintain and pay all costs for measuring devices necessary to measure the water diverted by the District. In return, the DFWP will pay the District an annual sum of $12,750. The DFWP, in accordance with Section 85-2-436(2)(j), MCA, will pay all costs associated with the installation of measuring devices or for personnel to measure streamflows in accordance with the streamflow monitoring plan.

A Change of Appropriation application, together with the signed lease agreement and the DFWP-prepared monitoring plan, was submitted in November 1992 to DNRC. Approval is expected during late 1992 or early 1993.

3. Blanchard Creek

Blanchard Creek joins the Clearwater River 2.9 miles above the river's confluence with the Blackfoot River near Ovando, Montana. The creek is a prime rainbow trout spawning tributary for the Blackfoot River but its reproductive contribution is limited due to loss of habitat from severe dewatering in the lower stretch.

The stream reach proposed for leasing extends about 1.1 miles upstream from the mouth. Within this reach are two irrigation diversions serving one user. This user, who irrigates 100 acres of pasture, diverts water at both diversions, causing the lower 0.1 mile of stream below the first diversion to go totally dry each summer.

With improved fish passage and increased streamflows, Blanchard Creek could provide significant recruitment of rainbow and cutthroat trout to a recruitment-limited section of the Blackfoot River. Fall spawning trout (brown and bull trout) could also benefit from flow augmentation.

In 1992, the BNRC approved Blanchard Creek as a study stream. The DFWP is now negotiating terms with the user.

4. Tin Cup Creek

Tin Cup Creek originates in the Bitterroot Mountains and flows 19 miles before discharging into the upper Bitterroot River near Darby, Montana. Once Tin Cup Creek reaches the Bitterroot Valley, irrigation diversions claim much of the summer flow. By stream mile 2, summer flow is commonly reduced to a trickle (less than 1 cfs).

The Bitterroot River is one of Montana's high quality wild trout fisheries. Maintenance of the wild trout populations requires high quality spawning and rearing tributaries.

The senior decreed right on Tin Cup Creek is being investigated for leasing. This right, which totals 4.7 cfs, is split among several owners who irrigate about 199 acres. Water associated with this right has been historically diverted at the creek's lower-most ditch at stream mile 1. This diversion is immediately upstream from the prime rainbow trout spawning area on Tin Cup Creek. These users have been thwarted in recent years from using their water due to condemnation of their conveyance ditch by the Town of Darby and by numerous objectors to other feasible conveyance alternatives. Consequently, these users now view water leasing as the most viable short-term option for protecting their senior right.

In 1992, the BNRC approved Tin Cup Creek as a study stream. DFWP personnel will begin negotiations with the water users late in 1992 or early 1993.

5. Prickly Pear Creek

Prickly Pear Creek enters Hauser Reservoir near Helena, Montana. DFWP met in early 1992 with a water user who controls an early right on the creek and has the lowermost diversion, located about 9.5 miles upstream from the mouth. Below this diversion, the creek goes dry when irrigation starts in March. At about mile 4, springs and return flows cause the creek to partially flow.

Lower Prickly Pear Creek supports low populations of brown trout and rainbow trout. Brown trout and kokanee salmon from Hauser Reservoir and Lake Helena likely use lower Prickly Pear Creek for spawning.

Currently, tributary spawning habitat for rainbow trout from Hauser Reservoir and Lake Helena is limited. Rainbow trout may benefit the most from increased instream flows because dewatering is occurring at the time when young rainbow trout are emerging from the spawning gravel. Besides dewatering, other problems affect the fishery. The streambed is silty and water quality is suspect.

The user proposes that DFWP fund a well-pump-sprinkler system to replace the user's early rights on the creek, rights which the user is offering to lease. In addition, the user wants DFWP to pay annual power bills to run the pumps. DFWP is evaluating the offer.

6. Hells Canyon Creek

Hells Canyon Creek arises in southwest Montana's Highland Mountains and flows for 10.5 miles before discharging into the Jefferson

River near Twin Bridges, Montana. The study reach is between the mouth and the only active irrigation diversion on the creek at mile 0.3.

Hells Canyon Creek is a critical rainbow trout spawning and rearing tributary for the Jefferson River for three reasons: (1) rainbow trout have poor spawning success in the river, (2) Hells Canyon Creek is one of only two river tributaries which successfully spawn and rear rainbow trout, and (3) Hells Canyon Creek can potentially produce and deliver high numbers of rainbow trout fry to the river.

The creek's summer flows are as low as 2 - 3 cfs. Dewatering to this level reduces rearing space for trout fry and causes a premature movement of fry into the river. Also, fish trapping studies show a substantial loss of trout fry to the existing ditch at mile 0.3.

Two water users capture the creek's flow at mile 0.3 and irrigate, primarily by flooding, about 100 acres of pasture and 20 acres of crops. DFWP personnel met with the user with the largest right (3.6 cfs) who plans to replace an inefficient ditch with a pipeline and to convert from flood to sprinkler irrigation. As a result, about 1.6 cfs will be salvaged. DFWP is considering this salvage water for leasing. Another advantage of the proposed pipeline system is that the present headgate would be redesigned to minimize losses of trout fry.

The BNRC approved, in the fall of 1992, Hells Canyon Creek as a study stream. If the user proceeds with the pipeline project, the DFWP will begin lease negotiations in 1993.

7. Cedar Creek

Cedar Creek, a 7.9 mile-long tributary to the upper Yellowstone River, enters the river near Gardiner, Montana. The creek arises in the Absaroka-Beartooth Wilderness area. Despite severe dewatering in the lower portion of the creek, a spawning run of Yellowstone cutthroat trout occurs.

About 0.5 miles upstream from the mouth of Cedar Creek, four irrigation diversions take the majority of summer flow. During 1989, for instance, 97 percent of the flow was diverted at this location. Leakage at the lower-most diversion provides about 0.5 cfs in the downstream channel, thereby preventing the total dewatering of lower Cedar Creek.

About seven Yellowstone River tributaries upstream from Springdale, including Cedar Creek, support spawning runs of Yellowstone cutthroat trout, a "Species of Special Concern" in Montana. Summer dewatering impacts the lower reaches of most of these tributaries.

This adversely affects the reproductive success of cutthroat trout and, consequently, limits the production of recruits for the river fishery.

Cedar Creek is one of the better cutthroat spawning tributaries to the Yellowstone River. However, the lower creek is dewatered when cutthroat eggs are incubating and when fry are emerging from the gravel and out-migrating to the Yellowstone River. This critical period extends through July and August. Stream dewatering presently limits the capacity of Cedar Creek to produce cutthroat trout recruits for the Yellowstone River sport fishery.

The U.S. Forest Service, with the purchase of the OTO Ranch, acquired water rights on Cedar Creek and two of its tributaries. These rights, which include the 2nd, 3rd, 5th, and 8th oldest rights in the drainage, are used in combination to irrigate 179 acres of hay meadows on public lands. These rights, which total 19.28 cfs, are more than adequate to provide the 1.3 cfs minimum that is needed to protect critical spawning habitat. The lease cost is expected to be minimal.

During 1992, the BNRC approved Cedar Creek as a study stream. A hydrologic study was completed in the fall, 1992. Indications are that an agreement will be signed in early 1993 and a Change of Appropriation application submitted to DNRC in the spring of 1993.

B. OTHER INVESTIGATIONS

1. Elk Creek

In 1991, DFWP was contacted by an individual regarding leasing of water from Elk Creek, a stream located on the Rocky Mountain Front near Augusta, Montana. The DFWP lists Elk Creek as a chronically de-watered stream.

The individual controls some water in Nilan Reservoir that could be used to augment flow in Elk Creek. This water is currently conveyed in a canal and could, if leased, be diverted into Elk Creek. The party was willing to discuss leasing possibilities, however, later attempts in 1991 and 1992 by DFWP personnel to meet and discuss leasing options have been unsuccessful.

2. Rock Creek, North Fork Blackfoot River Tributary

This tributary of the North Fork Blackfoot River is near Ovando, Montana. This creek is a significant rainbow and brown trout spawning tributary for the Blackfoot River and its North Fork. DFWP has been successfully working with the only user on the creek to improve fish habitat. The owner is currently diverting water to prevent abandonment of the water right. Consequently, about 2,000

feet of the best habitat is dry. In 1992, the owner appeared receptive to leasing to protect his water rights. DFWP is continuing to explore leasing options.

3. Nevada Creek

In 1991, DFWP personnel started exploratory discussions with the Nevada Creek Reservoir Water Users about leasing stored water for instream use in Nevada Creek near Helmville, Montana. Some interest was expressed during these discussions, however, no progress has been made in 1992.

4. Blaine Spring Creek

Blaine Spring Creek is a tributary of the "Blue Ribbon" Madison River near Ennis, Montana. The creek originates at two large springs and flows 5.1 miles before joining a side channel of the Madison River.

Summer flows are gradually depleted for irrigation by at least 6 ditches. A portion of the creek's middle section is commonly dry for two months each summer.

The creek has a high potential for trout spawning and could provide rainbow and brown trout recruitment to the Madison River. With increased and continuous year-long flows, the creek could become a prime reproductive and rearing site for Madison River trout.

DFWP investigated leasing 5 cfs from the Shining Mountain Homeowners Association. This right is the senior decreed right on the creek and is diverted about 4.1 miles upstream from the mouth.

A hydrologic study was undertaken to determine, among other things, the amount of water that DFWP could protect instream as the leased water passes downstream diversions. It was concluded that only 1.2 to 1.6 cfs of the 5 cfs offered for lease was historically consumed and could be protected. This flow amount is insufficient to provide the desired fishery benefits. Therefore, DFWP in April 1992 terminated its efforts to lease the Association's water.

5. Dry Creek

Dry Creek is a small stream that enters the Missouri River near Townsend, Montana. In spring, rainbow trout from Canyon Ferry Reservoir enter Dry Creek to spawn.

The small size of the creek enables two senior right holders to divert virtually all the flow during the irrigation season. DFWP

investigated leasing possibilities on Dry Creek with a user who has the third and fourth rights. DFWP determined that these two junior rights would not secure a reliable water supply during the irrigation season.

Through a cooperative agreement with the user and the Broadwater Canal users, another solution was found. Sufficient flow is now being provided to protect the reproductive capacity of Dry Creek.

6. Magpie Creek

Magpie Creek is a small tributary to Canyon Ferry Reservoir. It provides spawning habitat for reservoir trout. The lower stream is partially dewatered during the summer irrigation season.

The lower-most water user on the creek contacted the DFWP in 1992 about the possibility of leasing a water right having a 1.25 cfs flow rate. During its investigation, the DFWP learned that the DNRC is recommending to the Montana Water Court that the subject's water right be reduced from 1.25 cfs to 0.23 cfs in the court's upcoming decree. The recommended reduction is based on an amended claim filed by the user in which the irrigated acreage was reduced by 71 percent.

After a site visit, the DFWP decided not to pursue a lease for the following reasons: (1) with the recommended flow reduction, only 0.23 cfs would likely be available for leasing, (2) chronic dewatering appears not to be a problem, and (3) Magpie Creek is a low priority stream for leasing. In the event that the Water Court awards the user a 1.25 cfs flow rate, DFWP will reexamine this offer.

7. Boulder River

The Boulder River flows into the Yellowstone River at Big Timber, Montana. The Boulder River drainage provides an excellent array of outdoor opportunities including wild trout fishing.

Agricultural water withdrawals and barrier dikes along the lower Boulder River adversely affect fish populations, reduce spawning areas, and hamper trout movements between the Yellowstone and Boulder systems. During drought years, the river is almost dry near its mouth.

In 1992, a water user who diverts water at about mile 10 contacted the DFWP to learn about water leasing. The user's water rights are junior to several downstream water right holders. The presence of downstream users with senior rights reduces the effectiveness of leasing.

DFWP met with this user to discuss water leasing. The user expressed interest in exploring water leasing; however, the ownership of property and associated water rights are currently being probated. Further investigation will be undertaken on this lease possibility upon settlement of the estate, which is expected during 1993.

8. West Gallatin River

The West Gallatin River flows 115 miles to Manhattan, Montana, where it joins the East Gallatin River to form the Gallatin River. The Gallatin River then flows west for 12.4 before joining the Madison and Jefferson rivers to form the Missouri River.

Water diversions begin where the river enters the agriculturally productive Gallatin Valley. During summer, the river is severely dewatered at its lower end.

DFWP classifies much of the West Gallatin River as "Blue Ribbon" in recognition of its high recreational, fishery, and aesthetic values. At the river's lower end, dewatering during the summer irrigation season limits the numbers of adult trout. With greater summer flows, this reach can support higher trout numbers.

Two West Gallatin River water users contacted DFWP in 1992. One user was interested in leasing and the other wanted to donate part of a water right. Both propositions are discussed below.

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In June 1992, a water user contacted DFWP about a possible water lease and DFWP personnel then met with the user. This user's West Gallatin River water right, for 2.59 cfs, has a senior priority date and a diversion point immediately above the severely dewatered stretch. A flow of 2.59 cfs is insufficient to relieve the severe water shortage in a river of this size. The added fishery benefit would be insignificant. The costs of leasing, measuring, and protecting this small amount of water cannot be justified. DFWP is not pursuing this opportunity.

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A West Gallatin River water user contacted DFWP during March 1992 about donating a water right to the DFWP. The right has a 0.125 cfs flow rate and a 1910 priority. DFWP personnel explained to this individual that we are unable to legally accept a donation because the only means to convert a water right to an instream use is through the leasing process. Given the small amount of water available and the late priority, leasing this right would not be worthwhile.

9. Swamp Creek

Swamp Creek is a 20-mile-long tributary to the Big Hole River near Wisdom, Montana. Summer dewatering is often severe throughout the creek.

Montana's remaining stream-dwelling, or fluvial, grayling are only found in the Big Hole River and some of its tributaries. The Arctic grayling is classified as a "Species of Special Concern." Only three Big Hole tributaries - one being Swamp Creek - have significant spawning runs of Arctic grayling. Grayling appear to utilize only the lower 1.5 miles of Swamp Creek for spawning and rearing.

The BNRC approved Swamp Creek as a pilot leasing stream on March 5, 1990. One water right was investigated for leasing. It is the senior decreed right on the creek and is diverted at the lower-most diversion, which is located 2.5 miles upstream from the mouth. The right has a flow rate of 3.38 cfs and is used to irrigate 800 acres of hay land.

DFWP attempts to negotiate a lease stalled in November 1991 because the asking price was unacceptable. In 1992, DFWP reopened negotiations. Again, an agreement on price could not be reached.

10. Jefferson River

The Jefferson River flows for 84 miles to Three Forks, Montana, where it joins the Madison and Gallatin rivers to form the Missouri River. Throughout its length, the river is used extensively as a source for irrigation water. Portions of the river are severely dewatered.

The Jefferson River provides a good brown trout fishery. Rainbow trout are also present but comprise less than 10 percent of the trout population. With adequate summer flows, the river is capable of supporting greater numbers of trout.

In 1992, a water user contacted DFWP about leasing a water right having a 25 cfs flow rate and a 1901 priority. DFWP personnel met with the owner to investigate leasing potential. The user was under the misbelief that the right was for 25 cfs of water when in fact the Water Court had reduced the claimed flow rate to 5.8 cfs. The user controls only one-third of the right or 1.9 cfs.

The user also controls 1.75 cfs right from the Jefferson Canal and this amount would also be available for leasing. Together, these 2 rights total about 3.7 cfs. DFWP declined the offer because the

2 rights total about 3.7 cfs. DFWP declined the offer because the total amount is too small.

11. Ruby River

The Ruby River below Ruby Reservoir flows for 48 miles before joining the Beaverhead River near Twin Bridges, Montana. Portions of the Ruby River below the dam are dewatered during the summer irrigation season. During past droughts, stretches of the river were totally dewatered, causing major fish kills.

The Ruby River below the dam supports significant numbers of resident brown trout. It is also an important reproductive and rearing site for brown trout which ascend the river in the fall. With improved flows, the river can sustain a greater biomass of trout.

In 1991, a water user who has 2,500 acre-feet of stored water in Ruby Reservoir contacted the DFWP about leasing or purchasing some of this water for instream use. DFWP's analysis revealed two potential difficulties:

a. By-laws of the Ruby River Water Users Association state that water from storage shall only be used for domestic and agricultural purposes, and

b. There is no water commissioner to administer water rights on the Ruby River so protecting water leased or purchased for instream flows would be difficult.

For the above reasons, DFWP has not pursued the offer.

12. North Willow Creek

North Willow Creek arises in the Tobacco Root Mountains and flows 15.5 miles before joining South Willow Creek to form Willow Creek near Harrison, Montana. Willow Creek flows an additional 0.5 miles before discharging into Harrison Reservoir. The lower half of North Willow Creek is partially dewatered during the summer irrigation season.

The trout fishery of Harrison Reservoir is maintained entirely by the natural reproduction that occurs in North Willow Creek and other reservoir tributaries. Improved flows would benefit the spawning and rearing potential of North Willow Creek.

DFWP was offered mining water rights for leasing. During our investigation, questions of abandonment and inflated flow rates were raised. These unresolved issues forced DFWP to decide not to pursue this lease further.

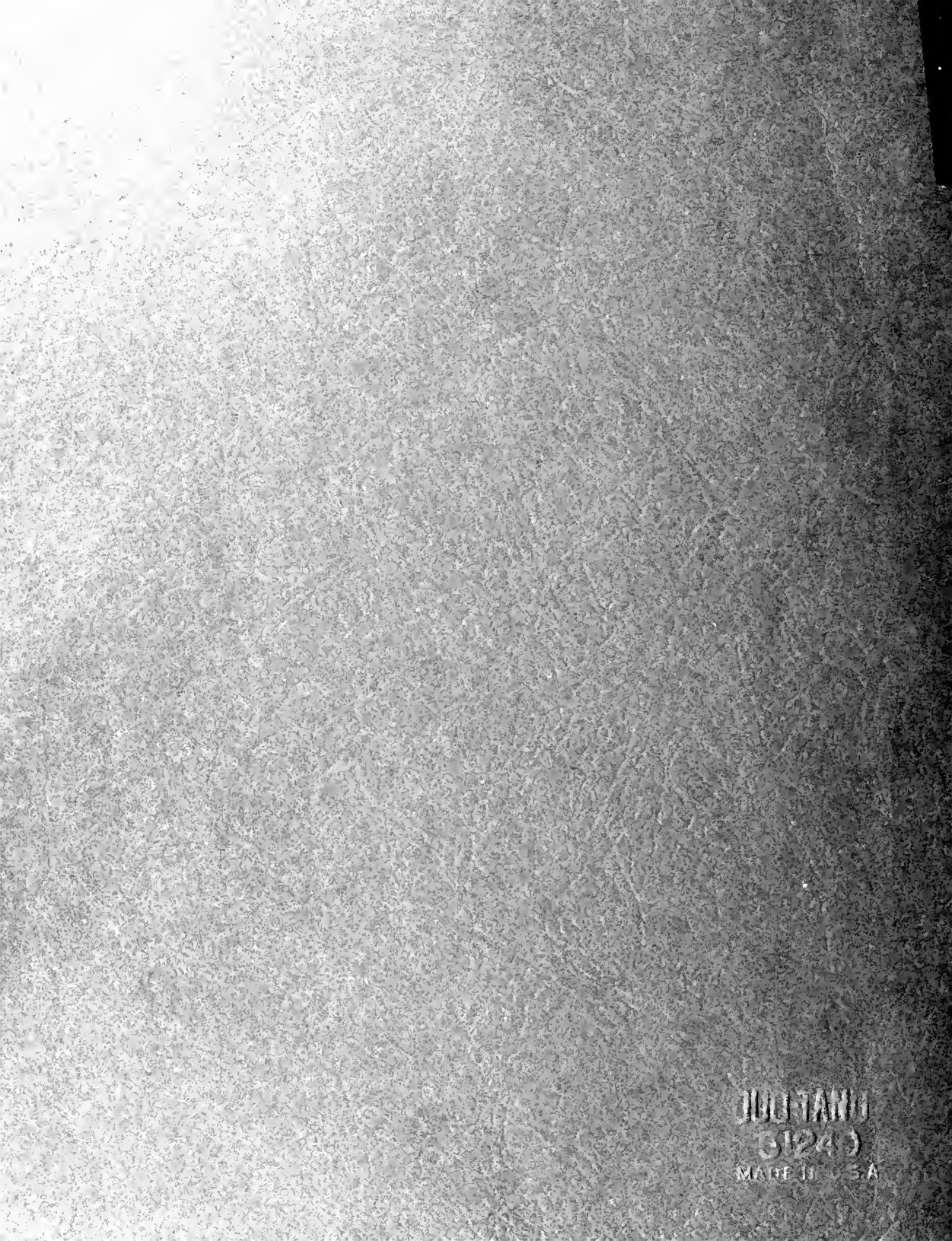
13. Red Rock River

Below Lima Reservoir the Red Rock River flows for 57 miles to Clark Canyon Reservoir. Below Lima Reservoir the trout population is fairly substantial and angling is an important recreational activity. Also, strong brown and rainbow trout spawning runs from Clark Canyon Reservoir occur here. Stream dewatering in this stretch can be severe with flow ceasing for several days within short spans of river.

In 1992 DFWP received an inquiry from a former landowner and water user who had recently discovered that he owned a water right on the Red Rock River for 1.0 cfs with an 1896 priority. The point of diversion is approximately 6 to 7 miles downstream from Lima Reservoir.

This former landowner had sold his ranch a decade earlier and this particular water right was neither accounted for or included in the sale of property. He believed that he still owned the water right and assumed it to be a valid right.

The DFWP decided after an investigation not to pursue the offer at this time given the questionable status of the water right.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